

# UV-Cured Epoxide: A Versatile Coating

A thin but tough coating that protects weapon systems against abrasion, moisture, and contaminants is piquing the curiosity of defense contractors and the chemical industries.

Developed by Ken Wischmann (DMTS, 7472), the coating is an epoxide blend of four ingredients — and has the consistency of house paint. There is no mixing of parts A and B, as is typical of household epoxy glues. But the most intriguing aspect of this epoxide coating is that it can cure to a clear, durable finish in less than a minute under ultraviolet (UV) light.

Most other protective coatings, particularly solvent-based ones, require a bake time that ranges from a few hours to several days. "What that means is that the object has to be cured in a laboratory oven," explains Ken. "This material can just be painted on." Or sprayed. Or dipped.

Most of the callers who are swamping Ken's phoneline are interested in using the coating as a field patch for electronics. The most obvious advantage of using Ken's material would be in outer space: A satellite could just be touched up as is, without having to be taken out of orbit. "You could use the sun to cure it," says Ken. "Ten minutes would be sufficient under most conditions, and even then the adhesive and electrical properties would be better than average."

Initial tests indicate the coating will pass NASA's outgassing test. "Because the coating is 100-percent solids and has no volatile constituents, nothing would emit gas that could cloud optics such as camera lenses," says Ken. Also, there is little surface shrinkage after curing.

## A Chain Reaction

Another property unique to the chemistry of this coating system is the "living polymer mechanism." The coating not only wicks in (that is, via capillary action like that which draws oil up a lamp wick) to hidden surfaces such as the underparts of capacitors and resistors on a circuit board, but is cured in a chain reaction. "Exposure to UV light initiates polymerization and continues into areas that 'haven't seen the light,'" says



AH, THE GLOW OF SUCCESS! A smiling John Sarkis (2852) adjusts the UV curing apparatus he designed that allows Ken's epoxide coating to set in 30-60 sec. DOE is currently doing a patent search on the apparatus, which John says is very versatile because of its size (6'x6'x3') and mobility — it's on wheels, and three of the five axes are motor-controlled. The apparatus has virtually unlimited entry for a wide range of objects.



PROTECTIVE EPOXIDE COATING that can be cured in a few minutes in natural sunlight has been developed by Ken Wischmann (DMTS, 7472). The material has potential applications as a field patch in space hardware and earthbound or waterborne electronics such as computer boards or other printed circuits.



## LAB NEWS

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Ken. "Other UV systems, so-called 'free-radical systems,' have to be cured in direct light."

Ken's formulation is not the first UV-cured system; there are others on the market. However, the others are proprietary; Ken's is made of commercially available ingredients and is now in the public domain.

Other UV-cured resins already are being used in fast-drying printing inks, the ones that are advertised as non-smearing. The resins are compounded into the inks and are cured by UV lamps placed next to the type.

The coating "didn't just fall out of the sky," says Ken, looking back. "It was more of a 'scratch-and-dig' process. We had the need, then we went after it." Howard Arris (7472) helped him formulate and test the coating. In support of Div. 7472, John Sarkis (2852) designed and built a versatile curing apparatus.

One obstacle that came up during development was that the material wouldn't spread over metal. It balled up, much as drops of water do on a Teflon frying pan. Finally, a wetting agent was found that overrode this tendency.

## Better Than Solvents

Now the material adheres easily to almost anything. "One disadvantage of solvents, which have been used in coatings for almost 30 years, is that they can attack certain substrates," says Ken. "But this coating bonds easily to metal, alloys, plastic, paper, glass, and wood."

According to Ken, the coating took almost

two years to evolve, "then a year to convince people that it was good to use. Then another year to transfer the technology to a production agency" — in this case, Bendix.

"Several years ago, I was beating the bushes," says Ken. "Now the business is coming to me. I've been getting calls from many companies as a result of Sandia's [3161] press releases." A news

*(Continued on Page Two)*

## Retiree Picnic Set

All Sandia retirees and their spouses are invited to the 19th Annual Picnic on May 22 from 4 to 7 p.m. at the Coronado Club.

In addition to the traditional refreshments, entertainment will be provided by the "Old Cooters" (from 5 to 7) and by the attendees themselves — videotapes of last year's picnic will run from 5 to 6, and videotapes of this year's gathering will run after 6.

Members of Large Staff will be on hand to greet the returning retirees. Sandia's retirees now number some 3100 people spread among 37 states and 3 foreign countries.

Please observe the following parking regulations: Use the Coronado Club lots or the Chapel, Que Pasa Recreation Center, or Base Hospital parking areas. (A shuttle bus will run between the Club and the parking areas on "B" Street.) Do not park along streets in the residential areas. Parking for the handicapped is in front of the main entrance to the Club.

# Antojitos

Buicks and Bikes Don't Mix My esteemed (sometimes esteemed) predecessor, John Shunny, retired from this desk more than four years ago. He was then (and is now) a fervent bicyclist. When he wasn't bicycling, he spent his time here protesting the devout stubbornness of some cyclists when it comes to basic bike safety. Today I'm peddling/pedaling the same precepts.

Yes, I bike to work myself now and again. (I don't make the return trip though—Sandia Park seems all uphill from the Labs.) And I certainly drive Eubank often enough. So I have some feel for what my correspondent is complaining about. He's a biker himself. And he's concerned that the arrogant stupidity of a few bikers can arouse the wrath of the non-biking populace against the many bikers who follow most of the rules most of the time.

His complaint, and mine: The bikers who use Eubank and Wyoming during rush hours. Yes, they have a legal right, theoretically, to commute on any street they wish. But they also have a legal obligation not to obstruct traffic. And beyond legality comes reality: Riding on a major thoroughfare during rush hour is not only ill-advised, it's likely to be terminally ill-advised. And motorists rightly resent being put into a position where they're likely to be perceived as the villain ("your great big car against that poor little bicycle"), whatever the legal cause of the forthcoming accident. And it's not as if the Base had no safe bike paths; the Moon-Susan route is far from perfect, but it's outside the major traffic flows. (Plug: LAB NEWS has bike maps; new ones are free, old ones are a quarter.)

One other complaint, from a different correspondent: Bikers ought to walk their bikes over the Los Altos overpass. True, but this is an issue that I can't get nearly as excited about. If there's an accident, it will be between two cyclists at slow speeds. A more likely result is that the patience of the good people who control the overpass and who ask bikers to walk across it, the Los Altos Golf Course people, will someday expire—and with it the right for all bikers to use the overpass. Just don't say you weren't warned.

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Sign in DOE/AL Cafeteria: RESERVED FOR SMOKERS. Apparently you'd better not sit down in that section if you're not prepared to light up after you finish your frijoles.

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"Man Bites Dog" News Category: Fire Sets Department. Well, as safety conscious as we are here at Sandia, 2360's version is probably better than the other way around. ●BH

## Fun & Games

Bowling — Winners of the SANDOE Scotch Doubles Tournament held April 12-13 at Fiesta Lanes were Reggie (7815) and Margret Tibbetts with a combined handicap series of 1265. Second place went to Joan and Otto Kern (guests) with a combined handicap series of 1221.

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More Bowling — SANDOE's Bowlers-of-the-Month for March were Bob Barton (3742) with a 678 in the Men's Scratch, Kathy Lucero with a 594 in the Women's Scratch, Fidel Perez (7481) with a 697 in the Men's Handicap, and Sally Frew (6334) with a 665 in the Women's Handicap. More information from Dora Gunckel (6410) at 4-4052.

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River Races — The Mother's Day Rio Grande River Race (Adobe Whitewater Club) at Pilar, New Mexico, is scheduled to splash off Saturday, May 10, beginning with downriver and slalom kayak races on the Pilar stretch. Registration is at 10 a.m. at the picnic shelters on NM 68 one mile south of Pilar. Canoe races begin at 10 a.m. Sunday, May 11, at Taos County Line; registration is at 9 a.m. Raft race registration is set for 12 noon at Orilla Verde Campsite in Rio Grande Gorge State Park. The race begins at 1 p.m. Entry fee for each race is \$5/person. All participants must use Coast Guard Approved Class 3 or Class 5 life jackets. All decked boaters must wear helmets. For more information, call Cliff at 298-0000, evenings.

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Volleyball — A coed Triples Volleyball tournament is set for Saturday, May 31, at the Kirtland East Gym. Call Penny O'Day at 823-2790 or Randy Herrin at 266-6184 to register.

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Tennis — Windy, rainy weather was no match for the players in the first STA (Sandia Tennis Association) tournament held at the Coronado Club on April 26-27. The winner in the Men's A Singles final was Jeff Tsao (1147), with second place going to Ken Hanks (7866). The Men's B Singles final winner was Mark Kargel (5142); Al Ortega (6242) took second. Charlene Schaldach (2645) took first place in the Ladies Single; Shannon Longmire took second. Mixed Doubles first place went to Jan Bozone and Art Dunn. They beat the team of Mark Tucker (7544) and Kay Goss (DOE/QED).

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More Tennis — STA's next tennis tournament is May 24-26 (Memorial Day weekend) at the Coronado Club courts. Events are: Men's A and B Singles; Men's Doubles; Women's Singles, Doubles; Mixed Doubles. Entry forms will be sent to STA members. Entry deadline is May 20 at 4 p.m. For more information, call Charlene Schaldach at 4-4896 or Joe Ruggles at 6-4863.

Continued from Page One

## Many Uses for Epoxide

brief in *Chemical & Engineering News* and a recent talk given at a convention of the Society for the Advancement of Materials and Process Engineering — where a small but persistent

crowd grilled Ken about the coating's characteristics — have also drawn attention to the material.

Although this coating is much more expensive than older systems, "it can save time and time is money," says Ken.

The only problem with the material is a common one to coatings: a greasy or dirty surface out in the field. "You need some surface preparation — cleaning and abrasion," says Ken. "It's similar to finishing floors."

Finally, the epoxide coating is much safer for the technicians who apply it, according to Ken. Precisely because it's not based on solvents, it's neither toxic nor carcinogenic.

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### From Satellites to Fingernails

## Ken's Coating of Many Colors

The normally transparent epoxide coating was mixed recently with a dye to help indicate the thickness of a given application — which can range from 0.0005 to 0.005 inch. Color is most useful when the substance is sprayed thinly with an air gun because different shades are instantly visible, depending on how thickly the layers overlap.

The experimental color chosen happened to be pink. "I get ribbed about that a lot," admits Ken Wischmann (7472). "We'll use

different colors in the final application."

But, in the meantime, Ken dares to speculate on a potential by-product of the dyeing experiment. Tongue solidly in cheek, he says he can imagine his pink coating used as a different kind of warpaint: "It could be used as a fingernail polish. After all, it cures easily in sunlight and ages well — even with a lot of wear and tear it should last at least a month or two."

## International Cooperation, Mutual Benefit

Shortly after Mamoru Mohri, a nuclear engineer on the faculty of Hokkaido University in Sapporo, Japan, had agreed to spend the summer of 1985 at Sandia Livermore, he was nominated to be one of Japan's seven astronaut finalists for a 1988 NASA space shuttle mission.

"Mamoru eventually was selected to be one of his country's first three astronauts," says Bob Bastasz of Physical Research Division 8347. "So an associate of his from the university — Shin Fukuda — came in his place to work in our division."

The project that Shin took over is part of an international research program devoted to studying plasma-surface interactions — the way materials respond to a plasma environment inside a fusion reactor.

Researchers are seeking to identify materials that are suitable for the "first wall" of a reactor — that is, materials that "see" the plasma first and must survive in an extremely hostile environment.

"A hydrogen plasma can be very sensitive to contamination," explains Bob. "Whether it's sputtered or eroded, first-wall material may find its way back to the plasma and cause it to cool. The plasma, of course, must remain hot enough to sustain a fusion reaction. We're looking not only for materials that, even if eroded, would not harm the plasma, but we also are seeking materials that would survive and be compatible with the plasma."

A research team at Hokkaido University (Hokkaido is the northernmost of the three major Japanese islands) headed by Prof. Toshiro Yamashina has been studying this problem. Sandia has a parallel program and some Labs work is related to Yamashina's, so Sandia established a cooperative effort with the Japanese group.

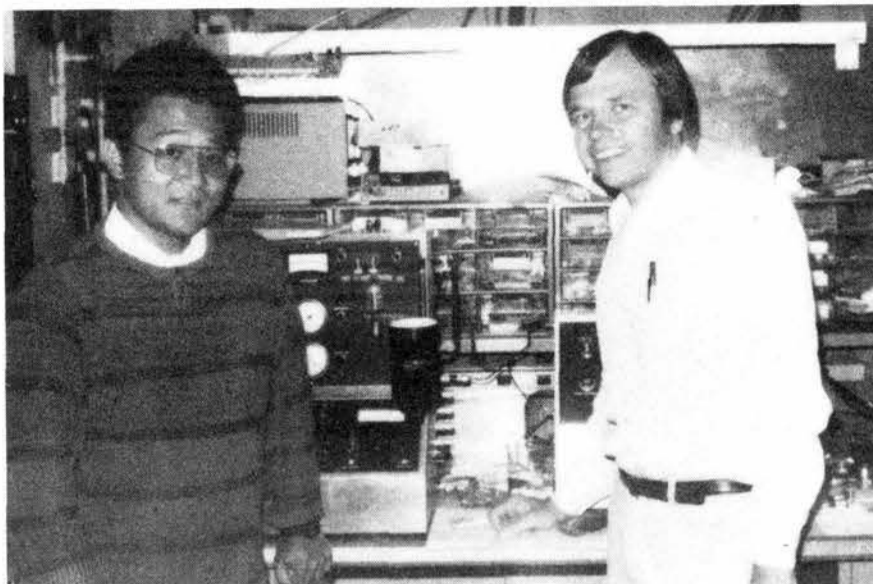
"Sandia is extremely well-equipped and has many talented people working on ion-beam techniques," says Bob. "We have excellent methods for characterizing the surface properties of materials, especially their behavior when exposed to energetic hydrogen plasmas. Some of our experiments are unique — for instance, the TPX [Tritium Plasma Experiment] and low-energy ion-beam analysis methods. Hokkaido has developed methods of measuring how a material's surface area changes when it's exposed to plasma. By combining our respective expertise and specialties, we can get good information."

During Shin's stay at Sandia, he developed a method for measuring the surface area of graphite, currently the preferred first-wall material. He adapted the Brunauer-Emmett-Teller (BET) method, which dates from the 1930s, and applied new instrumentation to it.

"We established several interesting characteristics of graphite and the way hydrogen reacts with it," observes Bob. "Graphite sometimes acts like a sponge and soaks up tritium. This is bad because you don't want tritium in graphite — besides being the fuel for plasma, tritium is expensive and radioactive.

"Shin's work with us resulted in additional findings — for instance, depending on how one treats carbon, the surface can be sealed off, preventing hydrogen isotopes from soaking into graphite. We also see ways of treating graphite so that it doesn't absorb tritium.

"So we're very pleased with the collaboration," Bob continues. "Shin did a tremendous amount of work, and our two labs continue to exchange samples. It's a two-way exchange — Yamashina's group has developed sensitive methods over the last 15 years, and we've benefited from their know-how. Our work will help the largest fusion experiment in the U.S. — the Tokamak Fusion Test Reactor at Princeton University. Princeton plans to use tritium to achieve 'scientific break-even,' in which the amount of energy put into the plasma equals the amount of



WORKING TOGETHER last summer in the Accelerator Lab were Shin Fukuda and Bob Bastasz (8347).



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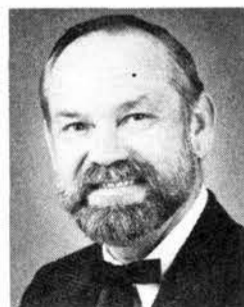
energy produced. Our results are pointing the way for Princeton in terms of how to treat graphite to ensure that the tritium stays in place."

Bob remembers a little culture clash accompanying Shin's first day at work: "He arrived on Trashbuster Day — an afternoon when we all donned blue jeans and did general cleanup of our lab areas. Fukuda was flabbergasted: 'Do you do this every Friday?' But he adapted very well to the Livermore lifestyle — he even commuted to work on the bike I lent him."

And what about Mamoru the astronaut? Bob says he's a national celebrity in Japan, and even though his department is proud of him, he had to resign his university post to accept the NASA position. He's moving to Houston with his family to begin training for his shuttle flight, which — before the recent Challenger tragedy — had been scheduled for 1988.

"We hope Mamoru will think of some good fusion experiments while he's in space," says Bob. "We're sorry he didn't get to work with us, but at the same time we're all excited for him."

### Death



Bill Moore of Component Division I 8445 died suddenly April 20. He was 50 years old.

Bill had been a mechanical engineer at Sandia for 27 years.

Survivors include his wife, son, and daughter in Pleasanton, and a brother, two sisters, and mother.

### Sympathy

To Glenda Padilla (8272) on the death of her brother in Oakland, April 3.

To Scott Faas (8471) on the death of his grandmother in Central Lake, Mich., March 29.

To John Totten (8243) on the death of his brother in Calder, Idaho, March 20.

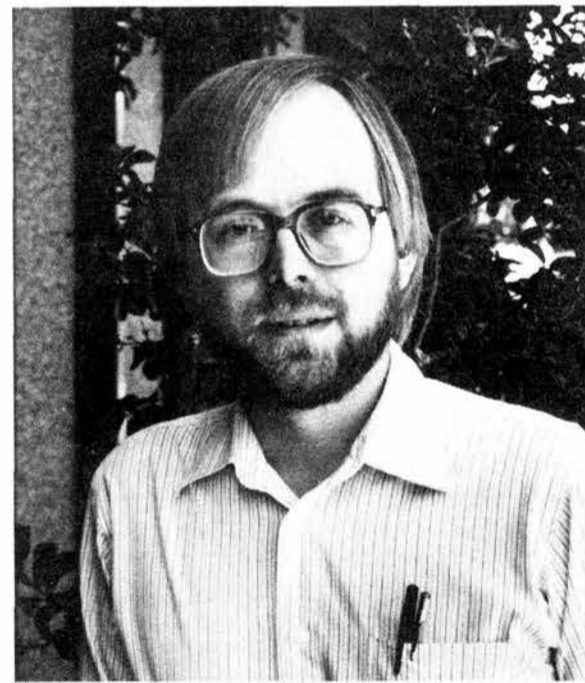
To Dave Stimmel (8175) on the death of his mother-in-law in Livermore, Feb. 20.

To Ollie Rohrback (8186) on the death of his mother in Lodi, April 15.

To Harold Short (8231) on the death of his father in Salem, Ore., April 12.

To Alan Biley (8243) on the death of his father in Central Point, Ore., April 19.

### Supervisory Appointment



DUANE LINDNER to supervisor of Exploratory Chemistry Division II 8315, effective April 16.

A native of Iowa, Duane joined Sandia at Livermore in October 1977 and worked with advanced gas transfer systems in the Materials Department. For a short time he also did systems studies on solar fossil hybrid plants. Most recently he has been working as a Strategic Defense project scientist. He is also captain of Sandia's PhD recruiting team at UC Berkeley.

Duane's education includes a BS in chemistry from MIT and a PhD in physical chemistry from UC Berkeley. He is active in the American Chemical Society.

His outside activities are backyard gardening and reading history. He and his wife Debbi have a three-year-old son and live in San Ramon.

### Congratulations

Vivian and Tom Spiglanin (8353), a son, Timothy Daniel, April 8.

Julie Goodson and Frank Bielecki (8173), married in Warren, Ohio, April 19.



SUZANNE SIMPSON to supervisor of Purchasing Information Center Section 3731-1, effective April 16.

Suzie joined Sandia in July 1976 as a clerk in Purchasing. After completing courses in mathematics, she moved to the Test Data Analysis Division as a data reduction analyst in 1979. In June 1981 Suzie returned to Purchasing as a buyer in Accelerated Procurement System purchases.

Her leisure time activities include scuba diving, snow skiing, and water skiing. She and her husband Oscar live in the NW Valley.

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DOROTHY JORDAN to supervisor of Projects and Contracts Section 7861-1, effective March 1.

Dorothy joined the Labs in 1963 as a secretary in technical divisions involved in laser physics, ion implantation, and nuclear reactor safety. In 1979 she joined Education and Training where she coordinated workshops, co-presented time management workshops, and managed the technical orientation program for new staff.

In 1982, Dorothy became senior clerk in Plant Engineering Scheduling and Control Division 7861. She transferred to Purchasing Division 3722 as a buyer/contract administrator in May 1985.

A former Out-of-Hours English grammar instructor, Dorothy has a BA in English from the U of A and an MBA from Highlands. She collects antique cut glass and writes in her spare time. She and her husband Ed live in the NE Heights.

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JON BEDINGFIELD to supervisor of Small Disadvantaged Business Relations Division 3731, effective April 1.

After earning an MBA from Oklahoma State, Jon joined Purchasing as a buyer in 1962. In 1966 he left Sandia to work as purchasing agent and manager of contracts administration for the Albuquerque Division of EG&G. During this period he also worked for the Nuclear Defense Research Corporation and was self-employed as a mortgage broker.

He returned to the Labs in January 1977 as a buyer in Purchasing Division 3712. Jon has served as sponsor of the YMCA Model Legislature for 20 years. He plays golf in his spare time. He and his wife Susan have two children and live in the NE Heights.



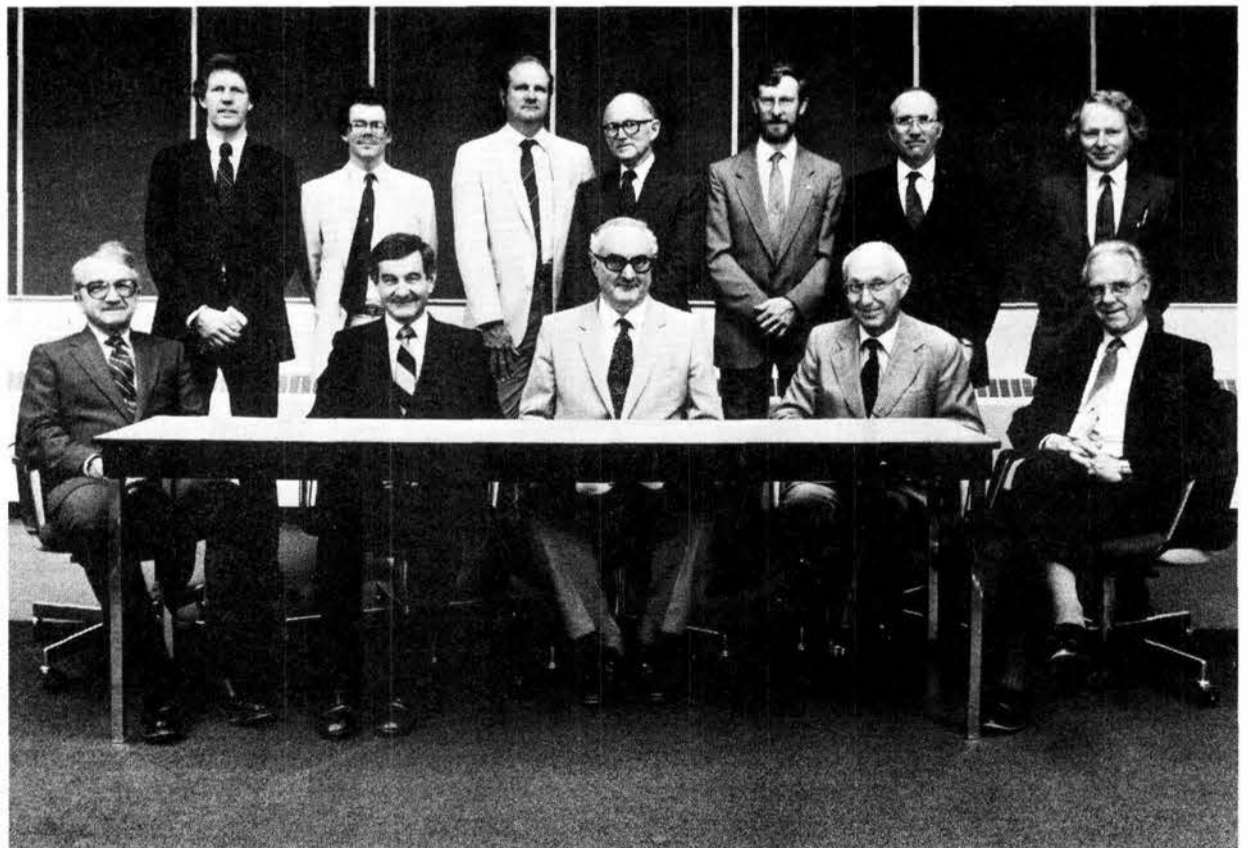
## Death

Quin San Hamel, General Attorney, Secretary, and Treasurer 4000, died April 29 after a lengthy illness. He was 47.

Quin joined Sandia as an attorney in 1974 and served in that capacity until 1979, when he transferred to Western Electric (now AT&T Technologies) in New York City. He rejoined the Labs in 1982 as director of the legal and patent office, and was promoted to his job as general attorney in December 1983.

He had a BS in arts and sciences from Loyola University, and was a 1966 graduate of DePaul University Law School. Before he came to Sandia, Quin was an attorney for a Chicago law firm and for Teletype Corporation in Skokie, Ill.

Survivors include his wife, his parents, two brothers, and a sister.



1958 BILATERAL DEFENSE AGREEMENT between the U.S. and the United Kingdom involves periodic visits between our key people and theirs. Last month several Britishers spent time at Sandia to discuss the coordination of US/UK activities and to get acquainted with President Irwin Welber. Front row, from left: Tom Cook, EVP 20; Ray Romatowski, Manager, AL; Richard Norman, Chief Scientific Adviser, Ministry of Defence; President Welber; Peter Jones, Director, Atomic Weapons Research Establishment. Back row: Paul Stokes (310); Martin Kennedy, Private Secretary to Chief Scientific Adviser; Curtis Hines (330); Jim Mogford (400), US/UK Coordinator; Peter West, Head, Atomic Coordinating Office, British Embassy, Washington; John Rudolph, Acting Deputy Director, OMA, DOE; and Bob Ridley, Assistant Chief Scientific Adviser (Nuclear).

# The Making of an Algorithm

Don Amos (DMTS, 1642) tackles what, to the ordinary observer, are esoteric problems — in algorithm development. His work is highly esteemed by his professional associates, and has been adopted by computer libraries in several countries.

Don's a quiet mathematician, and his work in numerical computation is not flashy. "It's research that results in a product that's useful only to other scientists," he says. "My work is applied at both the theoretical and engineering levels. I can't name a particular project that I'm solely responsible for. Usually I'm buried deep down in a list of people who have contributed to a project's success."

That's not to say that his work has not been recognized. Three years ago, Don was initiated into Sandia's technical hall of fame as a DMTS. That award was given in recognition of his computer library, called AMOSLIB, which computes functions of mathematical physics, engineering, and statistics. Don is quick to share that recognition with Sharon Daniel (6414), who "provided the programming support and a lot of initiative."

## Subroutines for Libraries

About the time that AMOSLIB was being developed, other libraries were growing with contributions from experts in other scientific areas. "The SLATEC [Sandia, Los Alamos, Air Force Weapons Lab Technical Exchange Committee] library emerged as a general-purpose library in the DOE community, and serves as Sandia's in-house scientific library," says Don.

Therefore, many of the functions in AMOSLIB were transferred to the SLATEC format. "And SLATEC is where I put most of my current work," Don explains.

The SLATEC library contains a wide variety of scientific software in subroutine form — and according to Walt Vandevender (2646), who maintains the library, is heavily used. In effect, a user can select a subroutine tailored to his or her machine and can expect the algorithm to perform as though it were written for the user alone. Achievement of what Don calls "code portability" requires considerable effort in developing an algorithm. That's because among machines, the range of parameters may expand or contract, sometimes by several orders of magnitude.

Don describes the SLATEC library as an ongoing project: "Experts in different areas contribute their codes, monitor them, and maintain them, if necessary. It's a high-quality project with

DOE-, university-, and industry-wide acceptance." Technology transfer via the Argonne Code Center has also helped in public dissemination.

The Association for Computing Machinery (ACM) has published many of Don's algorithms. Some of the work has been picked up by researchers and commercial libraries as far away as Great Britain, Germany, and Norway.

One way to describe Don's work on the early stage of algorithm development is in terms of its style. In his own words, "It's a steady mental effort — pretty solitary research," says Don. "And that's the aspect I find most challenging and satisfying. My work does not deal with things the ordinary person faces," for example, numbers

## Bessel Functions: Supply and Demand

The part of Don Amos's work that seems to be most in demand is split between statistical routines and Bessel function subroutines. "The statistics groups at SNLA [7223 and 6415] and LANL have found most of the statistical routines useful for extended parameter ranges," he says. What Don did for them was to extend the possibilities for hypothesis testing by making available computational algorithms for functions not previously tabulated.

"In the area of Bessel functions, two types of codes are in demand," says Don. "Those of real argument are most often used to evaluate results from cylindrical geometries, such as heat conduction, which involve only magnitude. Those of complex argument are used where one needs both magnitude and phase, such as in electromagnetic theory and elastic wave propagation in cylindrical geometries."

The electromagnetic group (7553) and the microwave standards group (7242) are heavy users of these two types of codes.

that stretch to 28 decimal places.

"Before computers, the numerical aspects were contained in numerical tables in the scientific handbooks, but now we concentrate on algorithms — recipes, in a sense — for doing the task as it is needed," Don explains. "One generally has a collection of formulas from which to choose when it comes to numerical evaluation. The parameters generally determine where the formula

these solutions and hence reflect the physical response of the real world situation. "In my case, this research also extends to the numerical aspects," says Don.

Once a collection of formulas has been selected to cover the regions between parameter extremes, each formula must be manipulated into a computational form. "Because most relationships are expressed in terms of some sort of [conceptually] infinite process, there must be some analysis to mimic this infinite process by a machine that has only a limited numerical capability," says Don. "This most often shows up in the form of an error analysis. When recurrence or repetitive usage of a basic relation is an important part of this process, one must also make sure that the relation does not amplify errors inherent in numerical computation. In other words, we look for numerical stability."



GAINING PRECISION in numerical computation by preventing the loss of significant digits is one of Don Amos's (DMTS, 1642) primary concerns. "Computers may perform several million operations per second," he says. "If numbers are rounded off at the end of every operation, a one-hour run can result in the accumulation of a lot of errors." Don's work is useful also to those who need to obtain the difference between two very large numbers — when the answer is very small.

can be evaluated most accurately with the greatest speed."

## Filling in the Gaps

The trick is to fit these formulas together so that all parameter ranges are covered. There are often "holes" in the resulting mosaic. That's where Don's research, both private and collaborative, comes in. The idea is to "continue" the function into these holes by means of suitable formulas (see "Special Functions" story).

"There's also a feeling of accomplishment after the analytical part has been coded into an algorithm and checked out," says Don. "We use FORTRAN because engineers and physicists like it. It's a number-crunching language."

Don goes on to explain: "One of the most important aspects of algorithmic development is testing." The goal is to work out bugs and to be sure that the algorithm performs as advertised in the documentation. The algorithm not only has to return accurate answers, but also inform the user of its own failure or the user's mistakes — such as submitting inadmissible values of the variables.

"One would think that because high-speed computers have been in existence for nearly 30 years, there would be little to do in the area of computing special functions," says Don. "Such is not the case. There are major gaps — particularly in complex variable computation — in special function libraries. Progress is often slow because of the magnitude of the effort required for complicated functions."

Don is one of those people who regard the computer as "more of a friend than an adversary." Up to now, computer hardware advances have had little impact on his work. However, parallel computers may revolutionize algorithmic development — from its traditionally serial nature — by allowing a problem to be broken down into pieces that could be solved independently of each other, according to Don.

Yet, if machines were able to compute with an infinite number of decimal places, "much of numerical analysis would go away, and I would be doing something else," says Don. "But there's not much of a chance that will happen."

## We Said 'Esoteric'

### The Amos Specialty: Special Functions

As a member of the numerical mathematics group (1642), Don seeks to relate mathematical theory to numerical computation in an area known as special functions.

The notion of a special function has its origin in physics and engineering. Both disciplines are built on physical laws that express — mathematically — some sort of relation between action and reaction. A specific relation can often be reduced to one of a group of equations, the solutions to which are called special functions or functions of math physics. Those formulas and numerical tabulations are what fill the engineering, physics, mathematical, and statistical handbooks. The tabulations have been studied and refined over the last century as part of classical physics and mathematics.

Research in this area consists of deriving formulas that express the essential behavior of

# Take Note

"Intelligent Machines and Robotics" is the theme of the 25th symposium of the NM section of the American Society of Mechanical Engineers (ASME). Several Sandians will be presenting talks at the technical symposium, which is to be held May 20-21 at UNM's Woodward Hall. Victor Johnson (2545) will speak during the robot sensing session (Tues.) on using a three-fingered hand for object recognition. Pat Eicker (6228) will chair a session on autonomous robots and intelligent machines (Tues.), that will include as speakers Sig Thunborg (DMTS, 6228), Ray Harrigan (6228), and Chris Olson (5268). More program information from Dennis Roach (7544) at 6-0515.

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Nominations are being accepted by the U.S. Particle Accelerator School for the 1986 Prize for Achievement in Accelerator Physics. Normally, two prizes (\$1500 each) are awarded annually for outstanding accomplishment in accelerator physics technology. Nomination forms are available in the LAB NEWS office in Bldg. 814; deadline is June 1. The awards ceremony will be held at the Second Joint U.S.—CERN Accelerator Topical Course in South Padre Island, Tex., Oct. 23-29.

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George Dacey is slated for May 11 on KNME-TV's "The Farer Forum" as the guest expert on arms control. The half-hour program starts at 5:30 p.m. and is hosted by UNM President Tom Farer.

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At the request of the Museum of Albuquerque, Tom Zudick (3155) last month donated his photographic series, "Artists of New Mexico," to the Museum. Tom took the photographs back in 1967-68 with the idea of recording, for historical purposes, the talents of artists from around the state. The portfolio contains photos of 48 artists, including Georgia O'Keeffe, Peter Hurd, Laura Gilpin, and Will Shuster. Sandians and former Sandians included in the collection are Wayne Gravning (3153), Janet Jenkins (3155), Joe Laval (3163), Ken Miller (400), Tillie Pierce, Dick Strome (ret.), and Tom himself. Tom donated "Artists of New Mexico" to the Museum in memory of Raymond Jonson and Ansel Adams. (Don't head for the Museum just yet to see Tom's photos. He tells us they will be displayed along with works of the individual artists where appropriate, and it will take a while to get the exhibit assembled. We'll keep you informed.)

\*\*\*

AFS (American Field Service) is seeking families willing to share their homes with AFS Foreign Exchange Students who will arrive in August for a year's stay with an American family. Host families are supported during the year by the

local AFS volunteer organization. Paul Pickard, son of Paul Pickard (6421), and Cindy Shafer, daughter of B. D. Shafer (2114), were recently accepted for the AFS Foreign Exchange program. Paul will live with a family in Portugal next year while participating in the AFS School Program. Cindy was accepted for the AFS Summer Program and will stay with a family in Japan. A committee of local AFS volunteers selects AFS candidates who then must be approved by the AFS/U.S. office in New York. Cindy's and Paul's counterparts abroad are selected by the same process. For information on hosting or exchanging, call Linda Pickard, 298-8851, or Helen Swan, 881-0038.

\*\*\*

"Coaching Caregivers" is the theme of a health fair for family members caring for ill or handicapped people in their homes. The fair is Wednesday, May 21, 12-4 p.m. at St. Joseph West Mesa Hospital. Nurses and therapists from Hospital Home Health Care (HHHC) and HOSPICE will be available to give one-to-one coaching and hands-on practice with medical equipment and supplies. Demonstrations on essential skills will be offered every 20 minutes. For more information, call Lezlie Ann Schubert or Mary Zack at the HHHC community liaison office, 842-5967.

\*\*\*

Two trolley tours along Albuquerque's "Cultural Corridor" are being offered May 31 and June 14 during the June 1986 Celebration of the Arts. Guides on both tours will point out artistic, cultural, and historic points of interest along a route that includes Old Town, the Indian Pueblo Cultural Center, Downtown, the South Broadway Cultural Center, the University, and Nob Hill. Each tour is \$7.50/person, payable in advance. The League of Women Voters of Albuquerque/Bernalillo County and Albuquerque Center, Inc. are co-organizing the May 31 tour. Contact the League at 242-9271, 9:30 a.m. - 12:30 p.m., for reservations; payment due by May 16. June 14 reservations are being taken by Albuquerque Center, Inc., 843-9486, payment due by May 30.

\*\*\*

The Chaparral Girl Scout Council has several openings at its summer resident camp in the Jemez Mountains for girls 8-17 years old. The fee for non-Scouts is \$120/week, including room and board. Bus service is available for an extra fee. Planned activities include campouts, cookouts, hikes, crafts, archery, and horseback riding. The Girl Scouts also are looking for camp counsellors who are at least 18 years old, are familiar with outdoors activities, and have experience with children. Applicants who can work from June 7

to August 4, are preferred, but a few one-week slots may be available. For more information, call Donna Baremore at 243-9581.

\*\*\*

Pottery storyteller figurines made by New Mexico Pueblo Indian potters will be on display at the Adobe Gallery May 17 - June 30. The six-week showing is to highlight the first autograph party of an upcoming book, *The Pueblo Storyteller*, published by Arizona University Press. Barbara Babcock, professor of English and anthropology at the University of Arizona, is author of the book, written as a result of nationwide interest in the clay figurines. Adobe has had a major showing of them annually since 1980. Autograph party for the public will be May 17, 2-6 p.m., and May 18, 1-4 p.m. For more information, call Alexander Anthony at 243-8485.

\*\*\*

YWCA is offering two day-camps for boys and girls 5 to 12 years old. Blue Triangle Day Camp (located in the Manzano Mountains) provides bus transportation from several locations in the city. Each session includes one overnight. Some of the activities are archery, campcraft, drama, arts and crafts, outdoor cooking, campfire fun and safety, hiking, camp songs, swimming, sports, field trips, and horseback riding. Summer Venture Day Camp will be held on the campus of Yucca Elementary School. Some of the planned activities are puppetry, theatrical make-up, painting, drawing, dance, swimming, sports, games, crafts, field trips, plays, clay modeling, song fests, skits, and horseback riding. Early/late care is available at both camps for a fee of \$2/day in addition to the regular camp fee of \$95 per session. YWCA youth membership is required (\$5/year). The camps begin June 9. For dates and more information, call 266-YWCA.

\*\*\*

You're right. The photo of Halley's Comet we ran last issue was shot in one minute, not one second. Actually, it was 56 seconds, but when ace LAB NEWS photog Randy Montoya wrote the caption, he decided to round the time to a minute. And not-so-ace LAB NEWS writer Randy Montoya forgot to change "seconds" to "minutes."

\*\*\*

Retiring this month and not shown in LAB NEWS photos: Bill Chandler (3550), Lucille Dunlap (3733), Audrey Simpson (3733), Willard Schmidt (6444), and Albert Schnedler (7213).

## Sympathy

To James Van Meter (3433) on the death of his mother in Illinois, April 11.

### FOR YOU, YOUR FAMILY AND FRIENDS

Yes! I want to join **HANDS ACROSS AMERICA** and help the hungry and homeless in America

Mr Mrs  
Miss Ms Name \_\_\_\_\_ (Please Print)

Company or Organization Name (if applicable) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone(s) \_\_\_\_\_

(GIFTS AND INFORMATION WILL BE SENT TO THE ABOVE ADDRESS)

**CHECK ONE:**  I want to join the line on May 25th  
 I am/We are unable to stand in line, but please accept the enclosed donation

**TO STAND IN LINE, PLEASE FILL OUT THE FOLLOWING:**  
 Total number of places I want to reserve, including one for myself \_\_\_\_\_  
 Please use the back of this form to list names and addresses of family and friends in your group.

**CHECK ONE:**  
 Please place me/us closest to the mailing address above  
 Please place me/us near \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Please place me/us where you need me/us most

**PLEASE SEND US THIS FORM BEFORE MAY 15TH IN ORDER FOR US TO SEND YOU INFORMATION ON YOUR PLACE(S) IN LINE BEFORE MAY 25TH.**

| NUMBER PEOPLE | x    | AMOUNT   | TOTAL  |
|---------------|------|--|--|
| @             | \$35 | or more, brings you a commemorative Participant's Certificate, an official <b>Hands Across America</b> T-shirt, a sturdy plastic visor, and the official lapel pin | T-shirt sizes<br>____ * of Extra Large<br>____ * of Large<br>____ * of Medium<br>____ * of Child's 14/16 |
| @             | \$25 | brings you a Participant's Certificate, and an official <b>Hands Across America</b> T-shirt  | \$   |
| @             | \$10 | brings you a commemorative Participant's Certificate   | \$   |
|               |      |  | TOTAL \$   |

I want my full donation to support the **Hands Across America** program. Please send me no gifts.

**PAYMENT METHOD:**  
 Check  Money Order (U.S. Dollars only) (Payable to **Hands Across America**)  
 (Please do not send cash)

MasterCard  Visa  American Express

Card No. \_\_\_\_\_ Exp. Date \_\_\_\_\_  
 Signature of Cardholder \_\_\_\_\_  
 FOR FASTER SERVICE ON CREDIT CARD ORDERS, CALL 1-800-USA-9000.

\* Remember contributions are tax deductible to the extent permitted by law, and are non-refundable  
 \* **Hands Across America** will do everything possible to deliver commemorative gifts by May 25, 1986, but cannot guarantee delivery by that date.  
 \* The **Hands Across America** gift program expires December 31, 1986. Sandia LAB NEWS, Albuquerque, NM

Send this form with your contribution to:  
**HANDS ACROSS AMERICA**  
 7707 American Avenue  
 Marshfield, WI 54472

A PROJECT OF  
**USAID**  
 IN ASSOCIATION WITH  
 THE CROSS COUNCIL

FOR YOUR CONVENIENCE, here's a "Hands Across America" registration form. The May 25 "human chain from coast to coast" event, which should be the largest community effort in history, will benefit the nation's hungry and homeless. Given New Mexico's sparse population and the goal of creating a human ribbon along I-40 from Texas to Arizona, your help is needed. More info in the LAB NEWS office (Bldg. 814) or from VIA Coordinator Karen Shane (4-3268).

Q0027



FIT OR NOT, all Sandians are invited to the Sixth Annual Fitness Day, sponsored by Medical and the Friends of Health Committee, at noon on Friday, May 23. New this year is a jump rope demo by the "Mexican Jumping Beans," from Manzano Day School. And you can buy a genuine, hi-tech, guaranteed-to-operate jump rope for a buck. Also new is a mini-trampoline demo, showing you how vertical motion can prevent horizontal spread. New MC too—Dr. Larry Clevenger (3320). The event also includes the traditional



Fitness Day '86

walk/jog and a bike ride. Participants (and volunteer helpers) are eligible for the drawing; grand prize is a mini-trampoline. Last year's Fitness Day, when these photos were taken, was windy, but it didn't prevent a good turnout. Bob Banks (3531; left photo) and his trio will again provide Fit Music. Take a company-approved extra half-hour off for lunch (\$2 pita sandwiches, free juice and water — or bring your brown bag), and come out to the Parade Ground on May 23!

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Myron Barnes (151)  
35 yrs.



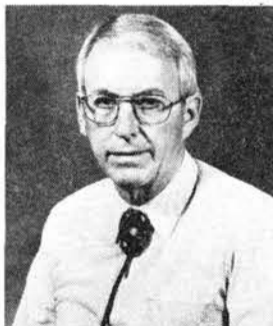
Bob Grover (6225)  
29 yrs.



Dan Garst (5242)  
28 yrs.



Gene Zucuskie (5249)  
23 yrs.



Arnold Bentz (5141)  
37 yrs.



Harold Maciolek (5114)  
33 yrs.



Ed Hansen (5260)  
33 yrs.

**Events  
Calendar**

- May 9-10, 16-17, 23-24 — "Dark of the Moon," based on the legend of Barbara Allen; 8 p.m. Fri.-Sat., 6 p.m. Sun.; Vortex Theatre (Buena Vista & Central), 247-8600.
- May 9-18 — "The Rainmaker," New Mexico Repertory Theatre; 8 p.m. Tues.-Sat., 2 p.m. matinees Sat.-Sun.; KiMo, 243-4500.
- May 9-June 8 — "A Doll's House: A Chicana Story" (adapted from Ibsen for NM audiences); 8 p.m. Fri.-Sat., 3 p.m. Sun.; La Compania de Teatro de Albuquerque, Nuestro Teatro (3211 Central NE), 256-7164.
- May 10-11, 17-18 — Iris Society Show, free admission; Albuquerque Garden Center (10120 Lomas NE).
- May 10 — Newchild Productions Street Art Festival, no charge, 4 p.m.; South Broadway Cultural Center, 848-1320.
- May 11 — New Mexico Symphony Orchestra's Mother's Day Pops Concert, 2 p.m., Rio Grande Zoo, 842-8565.
- May 11 — Movietime at the KiMo, Love to Laugh Series: Chaplin in "Easy Street" and "The Immigrant"; Keaton in "The Boat" and "Cops." 7 p.m.; KiMo, 848-1374.
- May 13-17 — Story Theatre (adaptations of children's stories), group of 13 children performing 2 plays each day; 10:30 a.m. & 1:30 p.m. May 13, 15-17; 2:30 p.m. May 14; free admission; Longfellow Elementary School.
- May 14 — Film Fest, free admission, 7:30 p.m., Rodey Theatre/UNM.
- May 16 — Crownpoint Rug Auction, free admission, 7 p.m.; Elementary School, Crownpoint, NM, 864-7634.
- May 16 & 18 — New Mexico Symphony Orchestra and the NMSO Chorus in a concert performance of Beethoven's "Fidelio," 8:15 p.m., Popejoy Hall, 842-8565.
- May 17-June 1 — "Lovers and Other Strangers"; 8 p.m. Tues.-Fri., 6 & 9 p.m. Sat., 2 p.m. matinee Sun.; Albuquerque Little Theatre, 242-4750.
- May 18 — Movietime at the KiMo, Boy Meets Girl Series: Stanley Kubrick's "The Killing," 7 p.m.; KiMo, 848-1374.
- May 18 — "Tito," Jose Garcia one-man show; 2-4 p.m., South Broadway Cultural Center, 848-1320.
- May 21 — Recital, Gardenside School of Performing Arts; 7:30 p.m.; KiMo, 247-3495.



For more information, call Karen Shane (4-3268).

**NEW MEXICO MUSEUM OF NATURAL HISTORY** is looking for docents (either weekend or weekday assignments). You may sign up for either one of two training sessions (May 12-15 or June 9-12) to be offered Monday through Thursday evenings, 6-8 p.m.

**BIG BROTHERS/BIG SISTERS OF ALBUQUERQUE** matches children from single parent families with adult volunteers who serve as role models and friends. This United Way agency is currently recruiting "big brothers."

**Retiree Deaths**

|                        |          |
|------------------------|----------|
| Mildred Whitten (69)   | Oct. 29  |
| Lawrence Cayce (85)    | Dec. 28  |
| Beulah Sutherland (87) | Jan. 5   |
| Paul Darrah (68)       | Jan. 12  |
| Leon Day (67)          | Jan. 12  |
| Henry Dancy (72)       | Jan. 12  |
| Ralph Sanders (72)     | Jan. 13  |
| Neile Hensinger (73)   | Jan. 18  |
| Henry Sweeney (77)     | Jan. 19  |
| Adan Ramirez (70)      | Jan. 23  |
| Louis Berry (67)       | Jan. 23  |
| Robert Whitford (67)   | Jan. 28  |
| George Dawson (67)     | Feb. 13  |
| Barbara Barney (77)    | Feb. 13  |
| Berniece Andrews (73)  | Feb. 15  |
| Frank Himebrook (77)   | Feb. 19  |
| Ruth Lilley (85)       | Feb. 19  |
| Benton Jolliffe (63)   | Feb. 20  |
| Clifford Pecha (75)    | Feb. 24  |
| Vincent Domme (73)     | Feb. 28  |
| Crawford Sanders (84)  | March 7  |
| John Flanagan (68)     | March 10 |
| John Miller (69)       | March 12 |
| James Kenagy (65)      | March 15 |
| Joseph Murphy (78)     | March 16 |
| Lorenzo Duran (67)     | March 17 |
| Carl Dahl (67)         | March 26 |
| Craig Summers (63)     | March 31 |

**Chicken Soup Still On Top**

Grandmothers protest national advertising promoting Contac as a better cold cure than chicken soup. Ben's Best Kosher Deli in Queens, N.Y., surveyed 110 grandmothers and [found that] 104 stand behind chicken soup. *Wall Street Journal*



## Sandians in High Gear



While many Sandians earn their bread and butter from meeting the challenges of search-and-destroy technology, some volunteer up to three company-authorized days a year on search-and-rescue efforts in the mountains. "If you hang around with us, we'll show you the ropes," quips Ric Davis (5263), a 14-year veteran with the Albuquerque Mountain Rescue Council (AMRC), a group that spent 400 man-hours last year combing the Sandias for lost or injured people.

The leading cause of death in the mountains is hypothermia, Ric is quick to say. "Most often, it happens to hikers who are ill-prepared for the size of the mountains," says Ric. "People get cabin fever in the winter. Then they run out into the mountains on the first nice spring day. They underestimate the La Luz trail, how long they'll be out there, and how quickly the weather can change. They head out in Levis, tennis shoes, and T-shirts. Suddenly a storm moves through and dumps six inches of snow on them. They can freeze to death if they're not rescued."

Just last Christmas, ten members of the AMRC — among them David Northrup (6253), Ted Simmons (3312), Randy Simons (5324), and Gary Tisone (1244) — spent 140 manhours searching for Steve Anderson, a 15 year old who was reported missing near the Santa Fe Ski Basin after a family picnic. The victim was found dead of hypothermia several days later.

Ric has hauled 12 dead people off the mountain, including a fallen climber, a hang glider — who hung in the trees much longer than he had glided — and an apparent victim of drug abuse.

Ric estimates that a third of the deaths are intentional — suicides carried out with firearms.

Spring is the worst season for accidents because people aren't as well dressed or prepared for the cold as they are in winter. Fall is the next busiest season, when "hunters come in from St. Louis and Dallas and go after elk," says Ric.

When the going gets tough, the tough call on



**BUNDLING** takes on a new meaning when it involves an exercise in raising a "victim" (she must've drawn the short straw) in an AMRC litter. It took a lot of people power (four haulers and one belayer) and fancy equipment (a Z-pulley rig and some edge rollers), all field-tested in an approaching thunderstorm.

a few more Sandians kept on reserve: Don Mattox (1834), Don Peterson (2814), and Carl Smith (7112).

Another group, the Sandia Search and Rescue Team (SSART), headed by Henry Dodd (6225) and including 21 Sandians, plays bloodhound in these efforts: tracking and searching for missing persons. The AMRC does more of the technical mountaineering, usually under arduous conditions that require special equipment, such as high-angle rock climbing.

Neither of these teams bothers with downhill skiers. That's not due to any inherent bias, but rather because the Sandia Peak Ski Patrol (which includes 14 Sandians) takes care of the ski slopes. They do, however, sometimes evacuate cross-country skiers with twisted ankles or other such misfortunes.

All this rock work and snow play makes for good TV coverage. A practice evacuation by helicopter was aired on Channel 7 back in September. The chopper exercise included Frank Gerstle (1845), Robert Watson (6248), and Tom Wright (1231).

The search-and-rescue system has its own hierarchy. Most calls from worried friends, spouses or parents are made — and for smoothest functioning, should be made — to the New Mexico State Police (841-8066). Two police officers in every district serve as mission initiators, and turn the job over to a volunteer field coordinator, for example, Don Stone (3436), who has a network of people to call: swim teams, four-wheel-drive teams, search teams, mountain rescue teams, even dog teams. A ham radio crew, the Albuquerque Radio Emergency Service (ARES), often functions as the dispatching office, with Steve McFarland (7555) as the resident Sandian at the transmitter.

Some calls inadvertently get funneled through the fire districts, simply because many people call the paramedics when their friends or family members get hurt.

The other face of the mountain rescue teams is less glamorous but just as important — safety education.

"Albuquerque is a metropolitan area filled with newcomers, not ranchers whose kids go into the mountains with them on roundups," says Ric. "Because people aren't taught from the cradle up and the Albuquerque weather is pretty benign, they don't realize that the mountains are a much different environment" from the city.

The ounce of prevention includes giving talks to ski touring clubs, mountain clubs, and scout troops on how to dress and how to deal with problems that may come up during a hike or climb.

Search and rescue is not all altruism. "Climbers come to our group with the idea that we have to look out for our own," concedes Ric. "There may be nobody else out here that could help us if we get into trouble, so it's up to us to provide those services." That is also where the greatest disillusionment comes in. "Only one out of 10 calls has to do with climbers," says Ric. "They're mostly hikers, and some pilots or hunters."

One of the biggest frustrations is the false alarm. Just last September, Bob Thomas (5171) and four other members of the AMRC searched for an overdue climber who, unknown to them, decided stubbornly to keep on climbing through the night and the next morning. And in November, four people searched for a hiker who had left his partner to solo the Knife Edge Ridge, only to find that he had walked out to the interstate during the night and hitchhiked home.

What's worse is the crank call. One woman

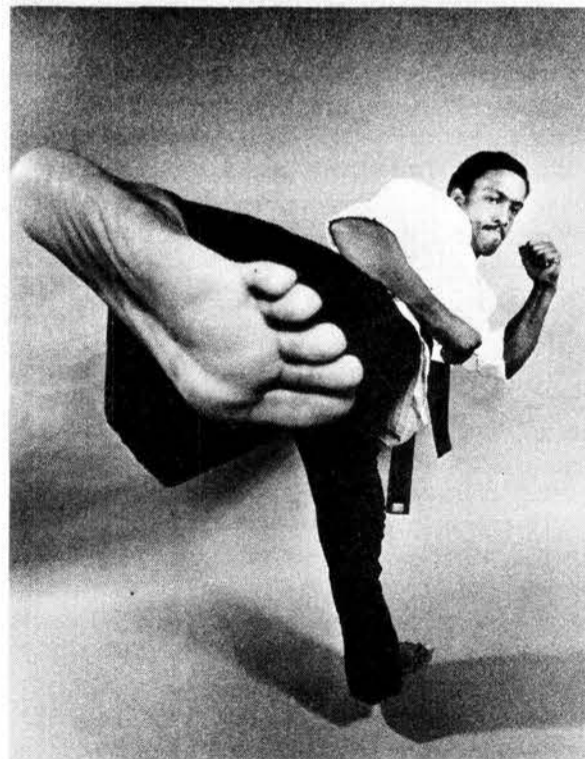


**GAMBLING** on Chris Hare's ability to belay the ropes from above, Ric Davis (5263) prusiks out of the 50-foot-deep Penasco Pit during an evacuation exercise. Not shown is Ric getting himself into hot water later on — during a final soak in a hot spring in the Jemez mountains.

called the rescuers in to aid her dehydrated partner — that turned out to be a dog.

In earlier years, the search-and-rescue teams were too poor to qualify for donations. They didn't have offices or phones, so they weren't eligible for funding programs. For the last few years, however, they've been able to "purchase some equipment through the Donor Option plan of United Way," says Ric. Now, they dare to dream about eventually getting a panel truck that could be used as a mobile cache for their litters, toboggans, and ropes.

Occasionally, a victim returns a favor. A member of the New Mexico Mountain Club, Dorothy Gregory, who had been helped down the slope with a twisted ankle on a dark and stormy day, gave the club a \$100 donation.



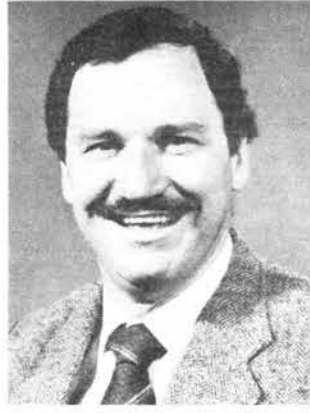
**YOU WOULDN'T DARE** call him "Big Foot," now that Eric Lamb (3154) has become the Southwestern Karate Grand Champion for the second time in a row. Eric put his best foot forward in the Albuquerque regional and beat a competitor from one of the largest Tae Kwando schools in the area — for that he received a trophy taller than he is. Eric is now looking forward to the national competition in Atlanta this summer.



# MILEPOSTS

## LAB NEWS

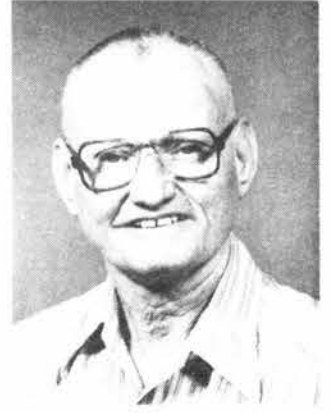
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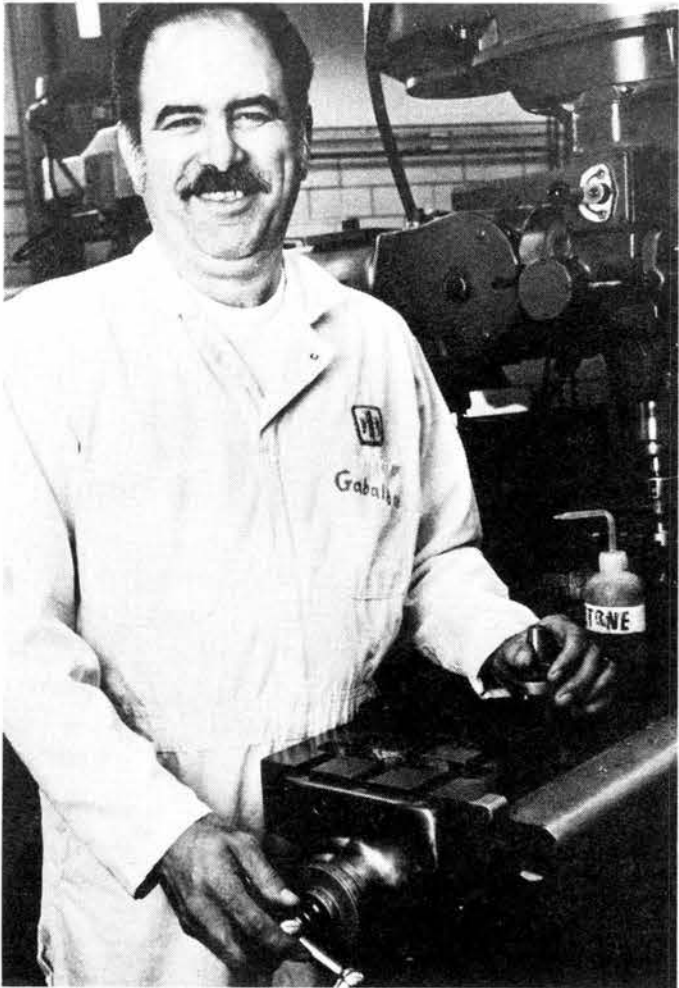
Gerald Hochrein (1651) 20



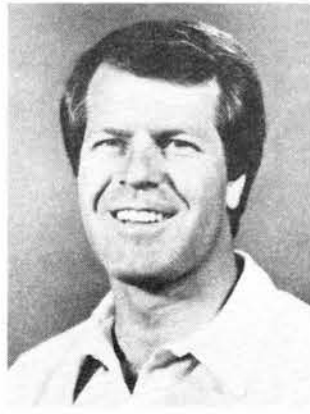
Andy Jones (7172) 10



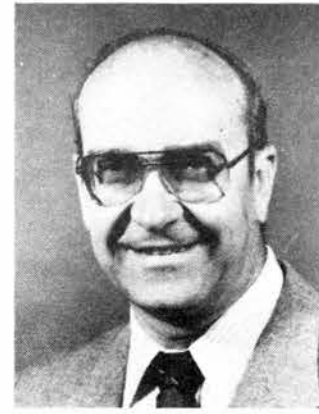
Paul Kind (7818) 35



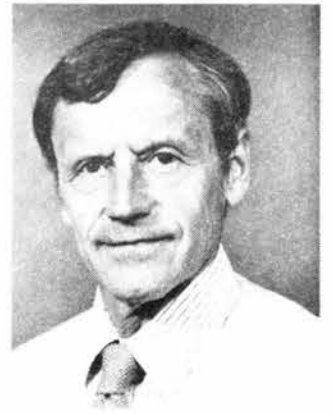
Fidel Gabaldon (7482) 20



Alan Smith (2852) 10



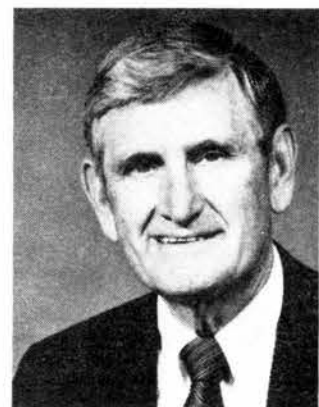
Dick Craner (3180) 25



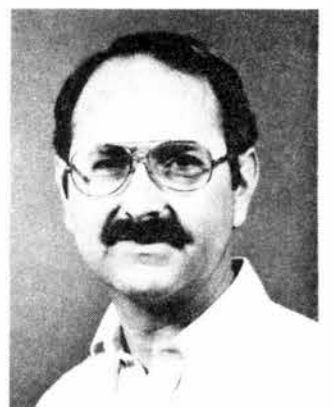
Jack Tischhauser (2850) 35



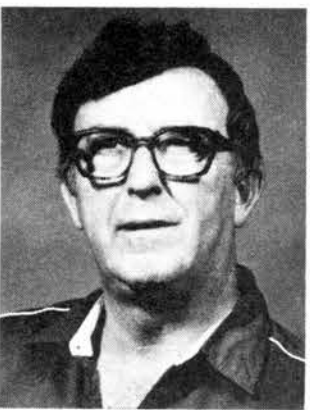
Roy Rentzsch (5122) 25



John Hart (3730) 35



Steve Romero (2112) 10



Bill McAtee (1236) 25



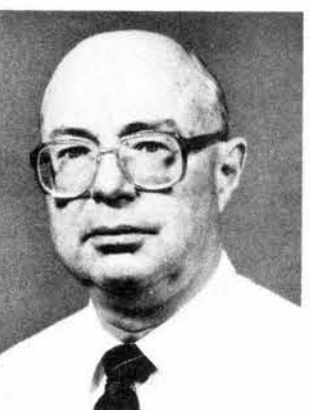
Cecil Lang (7173) 35



Fred Blottner (1636) 25



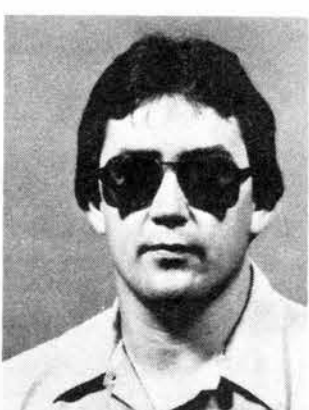
Lucille Smith (3152) 30



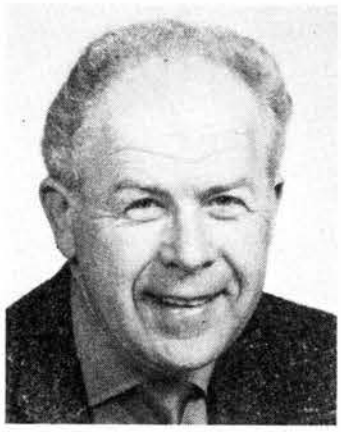
Ralph Carden (2616) 25



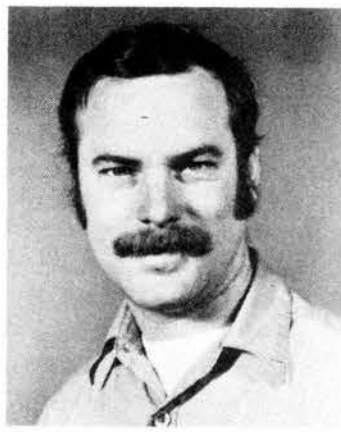
Lloyd Fuller (3740) 35



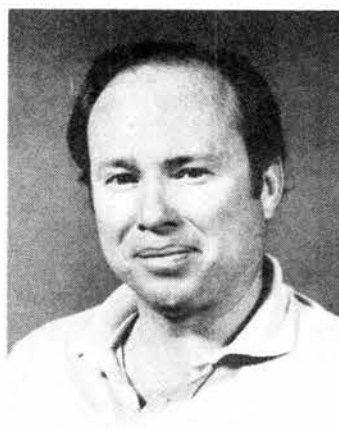
Craig Furry (2313) 10



Jack Martinell (8474) 30



Ron Hellmer (1154) 10



David Goodwin (6241) 10



Ed Gonzales (7813)

30



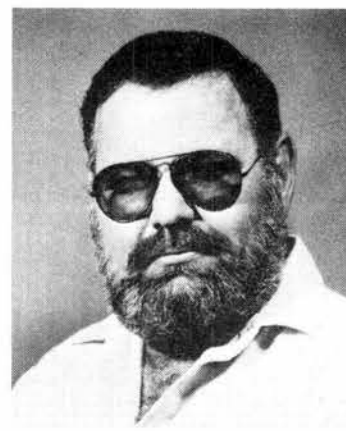
Orval Jones (5000)

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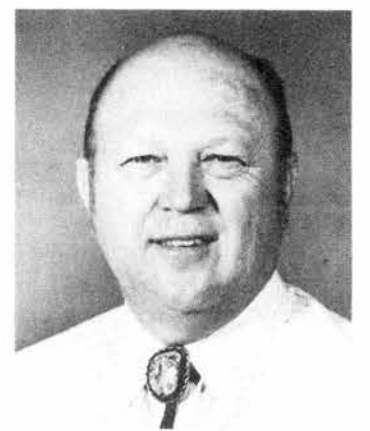
Al Elsea (8274)

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Ernest Apodaca (7481)

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Earl Morris (5152)

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Lou Tidwell (3462)

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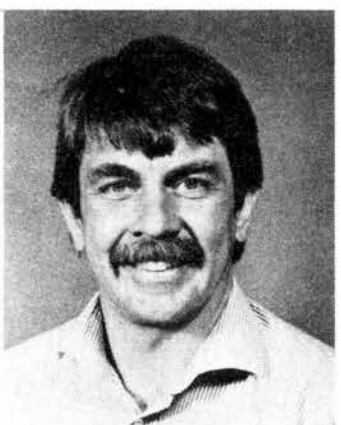
P. K. Goen (7172)

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Harold Brint (8272)

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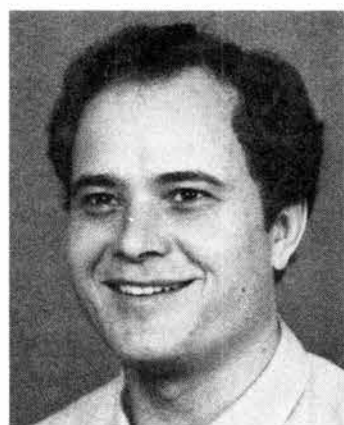
Paul Klimas (6225)

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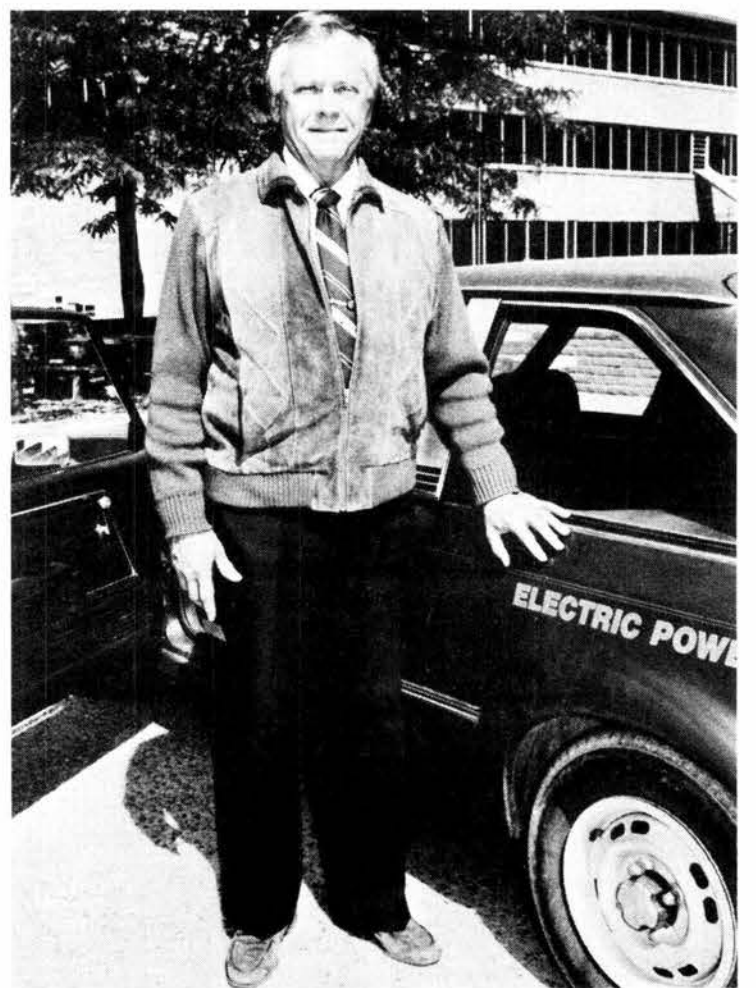
Rick Orzel (7172)

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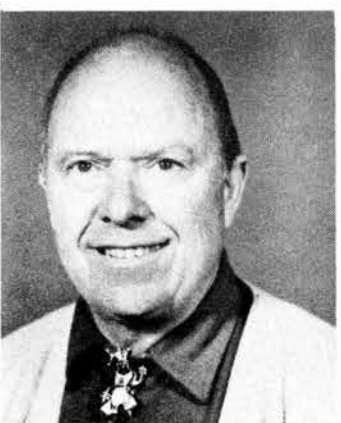
Dennis Siebers (8362)

10



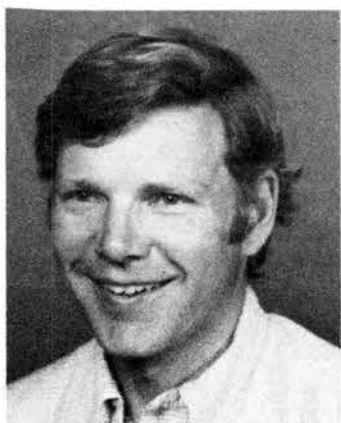
Dick Bassett (2564)

35



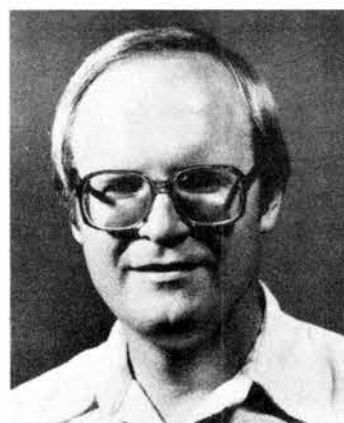
Bill Rogers (5322)

30



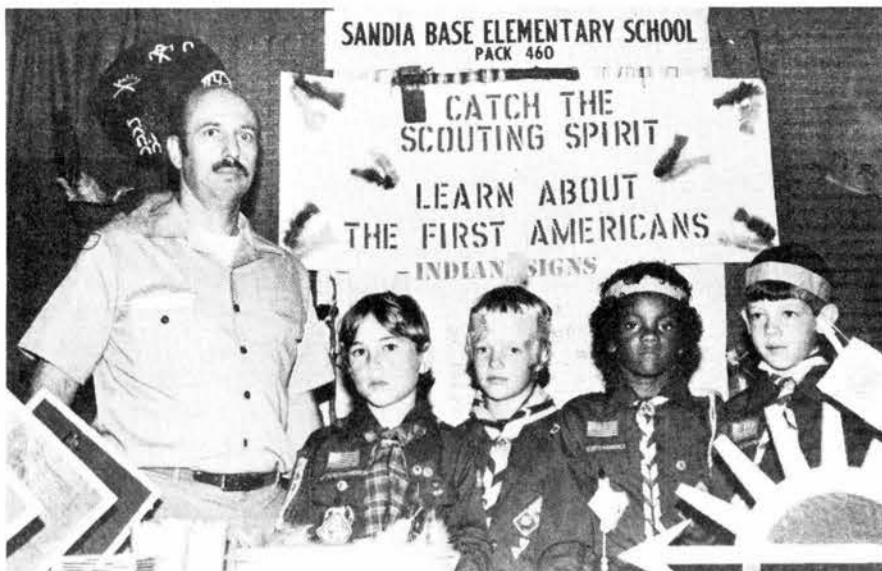
Bob Carling (8313)

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Ralph Peters (6312)

10



"BE A PROUD AMERICAN" was the theme of the April 12 Boy Scout/Cub Scout Show that brought some 1500 Scouts from around the state to Winrock Center for a day. The Scouts set up booths and exhibits designed to promote an understanding of history and a sense of patriotism. Stuart Barth (3426), Eagle Scout and assistant Cubmaster and activities chairman for Cub Troop No. 460, is shown with some of the boys in his troop. Stuart played a major role in orchestrating the successful Scout Show.

UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

**Deadline: Friday noon before week of publication unless changed by holiday. Mail to Div. 3162.**

**Ad Rules**

1. Limit 20 words, including last name and home phone.
2. Include organization and full name with each ad submission.
3. Submit each ad in writing. No phone-ins.
4. Use 8 1/2 by 11-inch paper.
5. Use separate sheet for each ad category.
6. Type or print ads legibly; use only accepted abbreviations.
7. One ad per category per issue.
8. No more than two insertions of same ad.
9. No "For Rent" ads except for employees on temporary assignment.
10. No commercial ads.
11. For active and retired Sandians and DOE employees.
12. Housing listed for sale is available for occupancy without regard to race, creed, color, or national origin.

**MISCELLANEOUS**

2 **BACKPACKS**, external frames, \$25/ea.; 2-man backpacking tent with fly, 6 lbs., \$40. Shane, 294-4920.

**MOVING SALE:** '78 motorcycle, household furniture, misc. Zucuskie, 881-4086.

**CIRCULAR BABY WALKER**, tip-resistant design, \$10; quiet motor Swingomatic, \$10; Johnny Jump-Up baby exerciser, \$6. Vigil, 821-8059.

**FORD MUSTANG PARTS**, 289/302, 10" pressure plate and disc, 1970 instrument panel, Mallory points, condenser, 67-70 sway bar. Brion, 298-1761.

**BUMPER JACK**, automobile, heavy-duty, ratchet type; dual-mode, chain-link bumper hook, \$20. Schkade, 292-5126.

**COCKER SPANIEL PUPPY**, registered, \$150. Miller, 266-9639.

'7 1/2 **HP SEARS AIRCOOLED OUTBOARD** motor, \$250; 4 HP Wards aircooled outboard motor, \$125 OBO. Netz, 281-3607.

**GOLF CLUB DRIVERS**, stiff shaft Shakespeare graphite, H & B Citation, Rawlings metal, wood, \$25 to \$40 ea.; recliner, Herculon finish, \$50. Stang, 256-7793.

'36 **DOOR**, storm/screen, white, rt-hand, 4-panel; lock, key, frame, screws, Windgard, closer, etc., \$40. Podvin, 821-6306 after 6.

**HEADBOARD**, gold-colored, kingsize, padded, button-tufted, \$50; American Tourister luggage, soft side, 26", \$30. Buss, 298-1589.

**SHORTWAVE RADIOS**, Kenwood R-1000 digital, 15-30 MHz, \$350; YAESU FT-301, Collins 75 Al, \$75; Bearcat 250 scanner, \$230. Frost, 293-4676.

**TRACTOR**, IH-660 6 cyl. diesel w/loader, \$3650 or trade for 4-wheel drive or satellite antenna system. Muirhead, 281-2925.

**DINING ROOM SET**, \$650; couch, love-seat, \$575; Marcy exercise gym, unused, \$775. Brosseau, 294-4731 weeknights.

**KINGSIZE MATTRESS** and frame, approx. 14' x 24"; bound, dark-brown wool rug and pad, make offer. Bercaw, 823-4479.

**CANOE**, 15' FIBERGLASS, w/paddles and life preservers, \$200. Chorley, 296-1454.

**TRAVEL TRAILER**, 22', self-contained, 12/110 volt, sleeps 6, storage, \$4975. Bailey, 883-9566.

**YARD SALE**, to benefit PAL Youth Bowlers Family Booster Club, May 17, 8 a.m. - 5 p.m., 7400 Lomas NE. McCutcheon, 298-7740.

**BABY ITEMS**: swing, \$15; high chair, \$20; walker, \$8; some clothes. Montano, 294-4238.

**RED PATIO BLOCKS**, 400, 40 cents each (80 cents new). Greenwood, 298-5268.

**LAWN MOWER**, push reel type, \$50; orbital sander, \$10; propane torch kit, \$8; VW Rabbit manuals, '75-'77, \$6. Maloney, 821-6661.

**MICROSCOPE**, B&L, geological zoom, stereo mirror, subbase 0.7 to 30 diameter, wide-angle eye pieces, \$450. Fink, 898-0237.

**HOLLYWOOD TWIN BEDS**, mattresses, box springs, corner table, \$150; Faberware tabletop electric broiler w/cover, \$25. Horton, 883-7504.

**PRESSURE TANK**, Teel, captive air type, 19 gal. vertical, new, \$95. Loucks, 281-9608.

**WEBER CHARCOAL BARBECUE GRILL**, 22 1/2" at top, all accessories, \$35 OBO. Serna, 292-2564.

**HIGH CHAIR**, badminton set; portable sewing machine; record player stand; Super 8 movie camera, projector; firm, full-size mattress. Smith, 299-7151.

**YAMAHA TUNER**, amplifier, half-price; antique secretary desk, appraisal \$2500 OBO; three fluorescent fixtures, 8' double, \$12 ea., all for \$30. Atkins, 298-5762.

**CHILD'S TABLE/CHAIR SET** w/2 chairs, all wood, pecan finish, \$25. Scharnberg, 345-1523 after 6.

**5-PIECE LIVING ROOM SET**: sofa, chair, cocktail table, 2 end tables, \$150. Lloyd, 884-0738, all day.

**FLUTE**, Yamaha, 5-key open hole silver head, hard case w/soft leather outer case, \$700 new, asking \$475. Spiller, 292-5158.

**AQHA 4-year-old mare** (Cat-Can-Do), ready for 4-H/local shows, riders of any age, \$1500 OBO. Baker, 294-3334.

**GARAGE SALE**: furniture, floor cushions, b/w TV, pictures, books, clothes, misc., 6927 Arvilla Pl. NE, Sat., 10 a.m. - 2 p.m. Duvall, 881-4406.

**4-CYCLE**, 2.5 HP GAS ENGINE, needs tuneup, \$25; Garrard record changer, \$10; ping-pong table, \$8. Cole, 298-1464.

**REFRIGERATOR/FREEZER**, used 3 months, \$225; planer/joiner, long-bed, \$375; 2 vacuum pumps; laboratory oven. Asbury, 268-3542.

**DISHES**, Mikasa whole-wheat pattern, 8 place settings & accessory pieces, \$200 OBO. Kennedy, 291-0034.

**TV SERVICE EQUIPMENT**, magazines '73-'79, junk TVs. Johnson, 296-1917.

**DINING ROOM TABLE**, rectangular, w/leaf, 6 chairs, \$75; 2 chairs, \$10/ea.; Sears humidifier, \$50. Reinarts, 298-6955.

**UTILITY TRAILER**, 5' x 7', 6.5 x 16 LT tires, \$110 OBO. Skogmo, 296-8869.

**WINDOWS**, various sizes, aluminum frames, \$10 and up; 2 bar stools, \$20 OBO. Skogmo, 881-4526.

**BEDROOM SET**, bookcase headboard, dresser w/mirror; kingsize mattress, boxsprings; sheepskin bucket-seat-covers; ceramic lamps. Connor, 293-7608.

**BAY GELDING**, gentle, good for beginners, break-away roping/poles and barrel horse. Eisenberger, 877-7041 after 5.

**SUNROOF DEFLECTOR**, for '79-'83 Honda Prelude, \$45 including installation, no drilling required. Lloyd, 884-0738.

**D-41 MARTIN GUITAR**, hard case, left-handed, \$1800. Perryman, 281-3020.

**GARAGE SALE**: refrigerator, electric stove, range hood, electric dryer, all harvest gold; student desk, book-

case, machinist toolbox, vise. Stone, 298-4641.

**DINETTE SET**, 42", round, bleached wood-tone, formica table w/2 10" leaves, 4 chairs, \$75. Bixler, 293-7205.

**2 DOORS FOR '57 CHEV. PICKUP**, misc. parts, \$75/all. Turner, 294-9674.

**TRANSPORTATION**

'72 **CHEV SUBURBAN**, 4WD, 350 V8, AT, PS, PB, AM/FM cassette, reg. gas, \$1250. Hawkinson, 281-1281.

'84 **HOBIE CAT 16**, double trapeze, life jackets, wet suit, trailer, sail box, more. Gelinas, 898-4464.

'75 **KAWASAKI Z-1B**, 900cc, fairing, luggage rack, 27,000 miles, \$1000. Irwin, 822-1831.

'77 **PONTIAC FIREBIRD**, V6, recent tune-up, mag wheels, air shocks, original owner, \$1500 OBO. Kirby, 268-8666.

'75 **ALFA ROMEO GT COUPE**, 2-liter, fuel-injected, 5-spd., 4-wheel discs, new upholstery, \$2500. Jones, 255-4539.

'68 **EXPLORER MOTORHOME**, 23 ft., AC/heater, Dodge engine, 5500 miles, extras. Renn, 265-2519.

'78 **TOYOTA COROLLA**, 5-spd., steel-belted radials, all records available. Ricker, 293-1847 nights.

'86 **NISSAN PICKUP**, red w/gold stripe, tinted windows, 5-spd., 5K miles, factory warranty. Scheibner, 268-0344 after 5.

'66 **CHEV. HALF-TON**, long bed, step side, 283, 4-spd., positrac, more, family-owned. Cox, 268-5629 after 5.

'78 **CAMARO**, Repossessed, sealed bid, all bids subject to prior sale, see in parking lot at main office. SLFCU, 844-4555.

'78 **MAZDA GLC SPORT**, 5-spd., AC, AM/FM cassette, \$1300 OBO. Clark, 884-8266.

'76 **PLYMOUTH GRAN FURY** station wagon, 3-seat, V8, 400 CID, 4-BBL carburetor, \$1188. Harris, 255-6577.

'79 **HARLEY SPORTSTER**, recent preventive maintenance, new rear tire, brakes, disc, chain, starter, generator, shocks, \$2995. Trennel, 294-8984.

**SAILBOAT**, AMF Force 5, 13 1/2 ft., sail used 3 times, trailer, \$950. Healer, 298-6967.

'82 **PROWLER REGAL**, 32' trailer w/hitch, self-contained, A/C, TV antenna, dual battery, rear bath. Armijo, 268-7645 after 6.

'83 **YAMAHA IT175K** Enduro, purchased 5/85, \$800 OBO; Bultaco Sherpa T parts bike. Zarick, 836-5703.

'83 **LTD**, 43,000 miles, AT, AC, cruise & tilt, AM/FM Whalen, 822-0413.

'63 **MERCEDES 220**, engine rebuilt. Shelton, 843-7501 or 883-4546.

'77 **FORD THUNDERBIRD** Towne Landau, all options, \$2500. Russo, 298-4974.

'79 **HONDA XL 250** street/trail bike, \$750 OBO. Romero, 821-7154.

'76 **FORD LTD**, full power, AC, AM/FM cassette, \$1300. Murillo, 877-1465 after 5/weekends.

'78 **CUTLASS SUPREME**, 2-dr., 305 V8, 54K miles, power, AC, cruise, Michellins, one owner, \$1950. Everhart, 266-3852.

**HONDA CB750**, new paint, cruise, air horns, fairing, saddle bags, back rest, crash bars, helmet, \$1000. Garcia, 299-7803.

'76 **CHRYSLER CORDOBA**, V8, AC, PS, PB, cruise control, one owner, \$1500 firm. Ross, 821-6689.

'82 **MAZDA PICKUP**, diesel, long-bed w/camper shell, stereo, 35 mpg, \$3200 OBO. Kellm, 821-8795.

'80 **CHEVETTE 4-DR.**, new paint, tires,

brakes, one owner, \$1999 OBO. Easton, 821-8795.

'77 **MALIBU CLASSIC**, V8, PS, PB, AC, \$1200 OBO. Spiller, 292-5158.

**BICYCLE FRAMESET**, Guerciotti 61 cm., Columbus SL/DB tubing, stiff frame, extras, \$250. Loucks, 281-9608.

**ULTRALITE PIONEER**, almost new, factory inspected, safety features, KAFB CU members may take over payments, equity negotiable. Atkins, 298-5762.

**FIBERGLASS TRIHULL BASS BOAT**, 14', trailer, electric trolling motor, 25 HP electric-start Johnson motor, \$2000. Davis, 865-9265.

'75 **KOMFORT TRAVEL TRAILER**, 22 1/2', tandem axle, electric brakes, self-contained, sleeps 6-8, \$3995. Prekker, 892-4107.

**BICYCLE**, 12-spd., Schwinn Varsity, needs work. \$35 OBO. Drury, 293-1929.

'80 **CHEV. CITATION**, 4-dr., AC, new AT, 60K miles, \$2000 OBO. Duran, 867-3629.

'80 **DATSUN 310GX**, 2-dr. hatchback, AM/FM, 4-spd., new brakes, \$2225. Fenimore, 298-8052.

'9 1/2' **DREAMER CABOVER PICKUP CAMPER**, jacks, sleeps 4, double sink, range, oven, icebox, Porta-Pottie, 110VAC/12VDC lights. Hyde, 268-2885.

'76 **HONDA 550F**, 15,000 miles, full fairing, \$600. Greenwood, 298-5268.

'79 **TRAVEL TRAILER**, 23', self-contained, rear bath, storage space, \$4800. Fitak, 281-2748 evenings.

'84 **TOYOTA CAMRY TURBO-D**, 5-spd., AC, AM/FM, auto. rev. cass., cruise, rear defrost, 27,000 miles, \$7500. Sardalos, 823-9068.

'78 **SUBARU 4X4 WAGON**, \$1600. Hund, 281-5297.

'74 **CORVETTE**, with T-Tops, L-82/350 V8, PS, PB, PW, AC, \$7500 OBO. Gentry, 298-3574.

'74 **VEGA GT**, AC, 4-spd., new engine, brakes, clutch. Eisenberger, 877-7041 after 5.

'74 **CHEV. MONTE CARLO**, 350 V8, AT, PS, PB, PW, tilt wheel, Blaupunkt AM/FM stereo, radials. Harrison, 292-6856 evenings.

**CHEV. CONVERTED RV VAN**, self-contained except for shower, generator, \$10,000 firm, cash. Kresge, 821-3933.

'80 **FORD PICKUP**, camper shell, 300 CID, 6-cyl., 4-spd., AC, new Michelin tires, one owner, \$3700. Lukens, 299-1271.

'84 **MOTOR HOME**, Holiday Rambler Class A, microwave, blender, icemaker, dual air, jacks, engine runs on propane or gas. Clement, 299-2324.

'84 **JAYCO 806 POP-UP CAMPER**, ice box, catalytic heater, sink, stove, low mileage, price negotiable. McMurtry, 881-8053.

'83 **HONDA AERO 800C MOTORCYCLE**, automatic, 90 mpg., \$475; 2 helmets, 7 1/2 and X-Sm., \$30/ea. Davidson, 294-6128.

Pennsylvania and Candelaria, established neighborhood, \$112,500. Bujewski, 881-1192.

**HOUSE** near Albuquerque Academy, 1800 sq. ft., sunroom, large MBR, great room, Marrs, 822-0367.

1 1/2 **ACRE** in Jemez Mountains, view, hilly, trees, fishing, utilities available, \$15,800. Schwarz, 884-9027.

**HOME**, East I-40/N217 area, 3-bdr., 2-bath, 1 1/4 acre, cross-fenced, landscaping, decks, views, \$59,500. Lidyard, 281-9277.

3 **BDR. BRICK**, 2400 sq. ft., new roof, enclosed entries, large sunroom, landscaped backyard, paved playcourt, RV yard, \$120,000. Hughes, 299-6674.

**CEDAR CREST**, mobile home, '84 14' x 70', 2-bdr., 2-bath in adult section, sell or trade for house. Bonner, 281-2873 after 6.

'80 **WINDSOR MOBILE HOME**, 14' x 80', Four Hills Park, 3-bdr., 2-bath, security system, \$23,000. Hultine, 299-4126.

1.3 **ACRES** in El Pinar Estates, 14 miles east of frontage road, wooded, electricity available, \$8,000. Perryman, 281-3020.

**BEAR CANYON MOSSMAN**, 4-bdr., 2-bath, tile floors, clerestory windows, \$126,500. Reilly, 821-6195.

1-2 **ACRES**, south of Bosque Farms, views, seclusion, restricted, power to property. Grant, 865-0785.

**WANTED**

**FURNISHED 2-BDR. APT. OR HOME** to rent, June-December, professor on temporary assignment, couple only. Baumgarten, (515)233-1088.

**BOAT MOTOR** for 14' boat, 3 1/2 to 7 HP, good condition, reasonable. Marquez, 836-7115.

**KIDSITTER**, responsible teenager, boy or girl, to sit with 12-year-old boy 4 days/week, summer. Marchi, 291-9681.

**PUPPY**, Labrador or Golden Retriever X, will provide good home with large yard. Romero, 864-6254.

**ENCYCLOPEDIA**, used set, complete. Bercaw, 823-4479.

**PUSH LAWN MOWER**. Gregory, 293-2080.

**HOUSEMATE**, female, who would like to look for house to rent w/me and my 8-year-old daughter. Tweet, 255-2763.

**HOUSEMATE**, 25-35 yrs. old, share 3-bdr. house in SE area. Brigham, 877-7866 after 6.

**STAINLESS STEEL FLATWEAR**, service for 8; stainless steel cookware. Hovorka, 299-0224.

**TO RENT**, airline bicycle carrier, July 24 - Aug. 4. Easterling, 298-7083.

**BABY CRADLE** or bassinot w/mattress in good condition, strong outdoor lawn chairs, child's playpen. Blake, 881-1663.

**TWIN STROLLER** or Strollee "stow-away"-type stroller, swing set in good condition. Bixler, 293-7205.

**REAL ESTATE**

**TAYLOR RANCH**, 3-bdr., living room w/fireplace, kitchen, dining, 1 1/2 bath, ceramic tiling, papered and paneled, 3 covered patios, pool, shed, extras, \$98,500. Paul, 898-1520.

**CABIN SITE**, 2.5 acres within national forest, on 4th of July Campground road, off South 14, easy terms. Zawadzka, 884-8956.

**MOUNTAIN CABIN** on 5 acres overlooking San Juan Mtns., Pagosa Springs, CO, separate double garage, \$82,000. Mares, 884-4843.

**ALL-BRICK MOSSMAN**, 4-bdr., hardwood floors, large kitchen, near

**WORK WANTED**

**REMODELING WORK**, engineering student, ceiling refinishing, cabinet rework, window installation, experienced, references. Atkins, 298-5762, ask for James.

**HOUSESITTING**, NMSU senior, May 19 - Aug. 15. Negin, 266-1983.

**HOUSESITTING**, college student and wife need home, late May through Aug., will sit 1 week or longer. Reynolds, 299-7267.

**HOUSESITTING**, college junior, pet care, etc., for vacationers, references available. Cook, 296-3064.

## Oriental Buffet Set for May 20

IT'S TERIYAKI TIME at the C-Club on Tuesday, May 20. The next in a series of tremendously popular ethnic buffets features Oriental favorites like egg rolls, chicken teriyaki, sweet and sour pork, and steamed rice. Eat on the patio or in the ballroom — whichever suits your mood. The buffet is served from 6-8, and the Bob Banks Trio plays from 7-10 for your listening and dancing pleasure. All this — and some special entertainment too — for only \$5.95.

**WOULD-BE CLUB MEMBERS:** Here's a deal you can't afford to pass up. An open house especially in your honor is planned May 16 from 4-7 p.m. Come on out and take a look at the Club's great facilities, and receive a \$5 discount on a one-year membership if you sign up at that time. Free soft drinks and beer from 5-6. Here's your chance to take advantage of that terrific pool-patio set-up, those trips to exotic places sponsored by the C-Club, the ethnic buffets and Sunday brunches, and big special events like Casino Night and the renowned New Year's Eve party.

**FILET MIGNON** or fried scallops are your choices on the two-for-one dinner special next Friday night, May 16. Afterward, it's Nite Rider (led by the Lone Ranger?) providing the dancing music from 8-midnight. The following week (on May 23), the bargain two-for-one menu features prime rib or poached halibut, with stompin' strains by the Isleta Poor Boys thrown in for good measure. As you know, these two-for-one deals are easy on the pocketbook — two dinners for a low, low \$14.95. Call the Club office, 265-6791, for reservations.

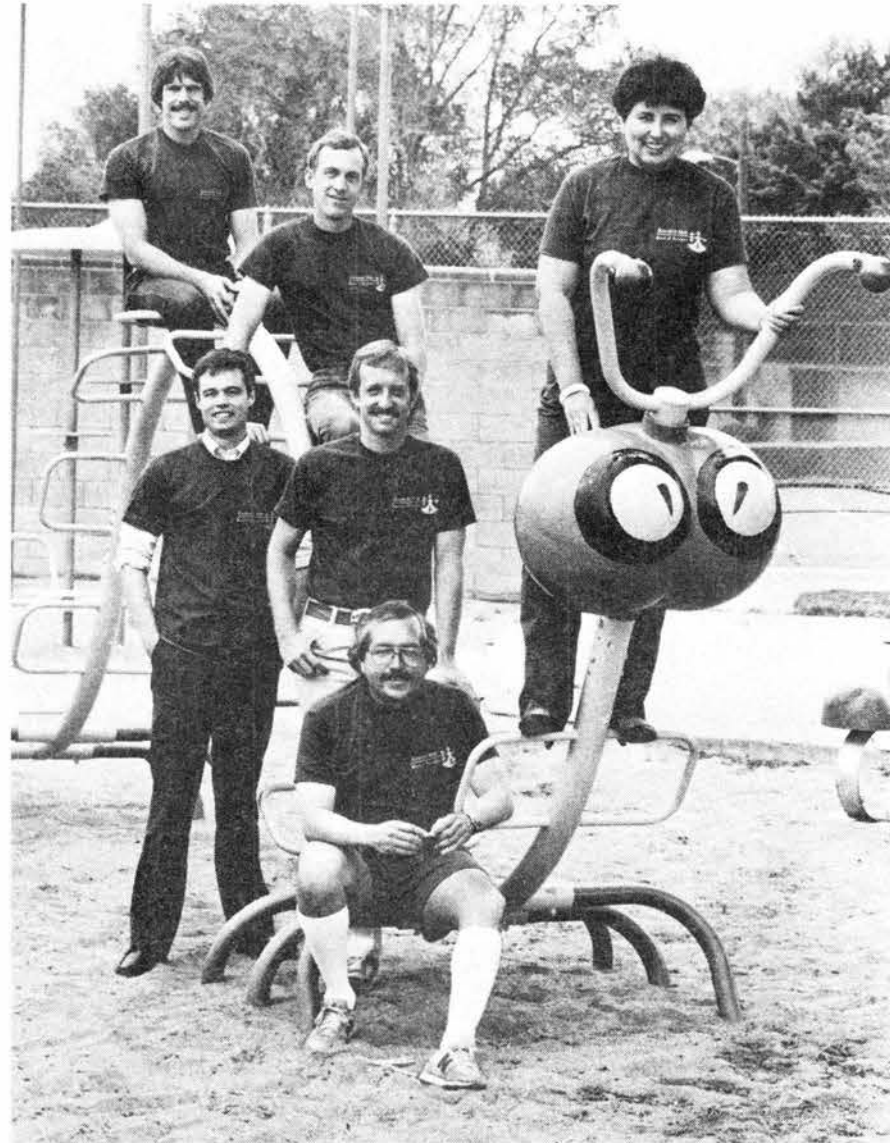
**SAY IT ISN'T SO.** T-Bird card sharks. Tell us you're not *really* closing down shop for the summer after those shuffle and deal sessions on May 19 and June 2! (We know — for three months, you're all heading for the bright lights of Vegas, where you'll teach those hot-shot dealers a thing or two . . . maybe three.) In the meantime, come on out to sharpen those table skills on the above dates: sessions start at 10:30 in the Eldorado room.

**ROADRUNNER T-BIRDS TAKE OFF** again on May 27-29, this time to Cochiti Lake. Circle those RVs, folks; the wagonmasters (Duane Laymon, 822-1749; Tom Brooks, 344-5855; and Bill Minser, 299-1364) demand a well-protected camp. Give one of them a call before you harness the oxen.

**RETIREEES TAKE OVER** the Club on Thursday, May 22. That's when that biggest of bashes for those folks, the annual retiree picnic, is scheduled from 4-7 p.m. (We hear rumors that this one is a wild and wonderful time, but we on-roll types will have to wait a few years to find out for ourselves!) Anyway, the C-Club crew will start preparing early in the day for the invasion, so no regular lunch service will be available.

**BLAST THOSE MOTHBALLS** off the bikini and mark your calendar for the grand opening party at the pool. It's a super way to celebrate the Memorial Day holiday on Monday, May 26. The place will be jumpin' from 11-6 that day. More details next issue.

**SPEAKING OF THE POOL,** it's a great place to site your next party! Treat your guests to an hour or two of splashing and picnicking fun at the best facility in Albuquerque. Rates are \$10 per hour (+ lifeguards), and catering service is available. Contact Maggie Pappas, the C-Club



C-CLUB BOARD OF DIRECTORS invites you to attend the open house on May 16 to look over the facilities and sign up for a discounted membership. Some of the board members gathered last week around a giant insect in the playground area of the patio. The braver folks in the top row are (l to r): Tom Mehlhorn (1265), Ken Sorenson (6322), and Phyllis Padilla (3521). Chuck Duus (132) and Mark Kiefer (1265) have their feet firmly planted on the ground, while Ernie Montoya (7475) is at the bottom of the heap.

catering honcho, for more info or reservations.

**TRAVEL** — Those of you who always have your suitcases packed and ready to go have some great opportunities to satisfy that wanderlust, courtesy of the C-Club Travel Committee. Some of them:

**Ultimate Whitewater Experience** — Time's short on this one; deadline for sign-up is a week from today, May 16. Scheduled July 2-6, this one offers three exciting days of rafting through Cataract Canyon on the mighty Colorado River — a unique way to celebrate the 4th of July! Take advantage of your stay in Moab (at the beginning and end of your rafting experience) to visit Arches National Park, located just five miles outside of town. Price is \$483/person, and includes three days of rafting with experienced guides (with gourmet camp cuisine along the way), two nights' accommodations at Moab, round-trip bus transportation, and a charter flight over magnificent canyon country from Lake Powell back to Moab after the rafting trip.

**Southern Colorado** — There's still a little bit of space left on the July 11-13 getaway to Mesa Verde and Durango in our neighbor state to the north. At Mesa Verde, you'll see some of the best preserved of the cliff dwellings. Later, a short ride to Durango gets you there in time for the manager's cocktail party at the new Rodeway Inn in downtown D. During your Durango stay, you'll enjoy a chuckwagon BBQ dinner and Western show (featuring one of the former Sons of the Pioneers). Any trip to Durango should include a trip on the narrow gauge, and this one does. The trip fee of \$176/person includes all of the above, and more. Make your reservations by June 11.

**Laughlin/Lake Havasu** — Start thinking October, because a trip to Laughlin (Nev.) and Lake Havasu City (Ariz.) is in the works for Oct. 13-16. You'll travel by motorcoach to Laughlin (called "Las Vegas South" by Nevada natives), stopping on the way at the Painted Desert cafeteria for lunch. In Laughlin, you stay at the deluxe Edgewater Casino/Hotel for three nights. Day 3 of this trip takes you on a short ride south to Lake

Havasu City. A must-see at LH City is London Bridge. (Contrary to popular opinion, it did not fall down, but was transported piece by piece from London to Arizona and reassembled in 1973.) After the Lake Havasu experience, it's back to Laughlin for the pursuit of fame and fortune at the gaming tables. The tab for all this fun is only \$150/person, and includes accommodations in Laughlin, a free breakfast or lunch buffet of your choice, round-trip motorcoach fare (and refreshments along the way), taxes, tips, and admissions. Reservation deadline on this one is Aug. 12 because of the tight accommodations scene in Laughlin.

### Congratulations

To Marianne Walck (1541) and Eric Chael (311), married in Farmington, Mich., March 22.

To Patricia and John (3426) Hamilton, a son, Nolan William, March 17.

To Amy and David (6425) Bradley, a daughter, Lia, April 21.

To Suzanne (2645) and John (6425) Kelly, a son, Michael, April 22.

To Karol and Fran (6316) Nimick, a daughter, Kathleen Hyeon, born June 7, 1985, adopted April 25.

To Judy and Adrian (7481) Romero, a son, Christopher David, May 18.

### Welcome

#### Albuquerque

Judy Beiriger (5255)

Laurence Cox (2125)

#### Oklahoma

Gary Laughlin (2543)